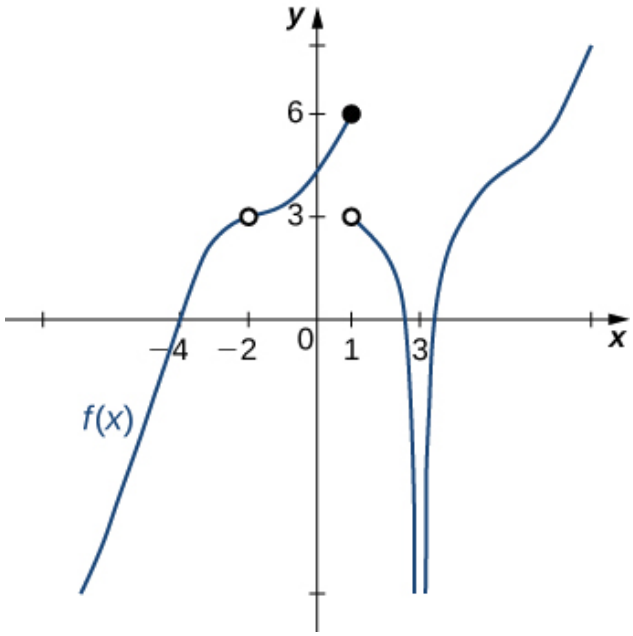
1. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = 0$.



A. 3

B. -4

C. 0

D. Multiple a make the statement true.

E. No a make the statement true.

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2. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 7^+} \frac{1}{(x-7)^6} + 1$$

A. $-\infty$

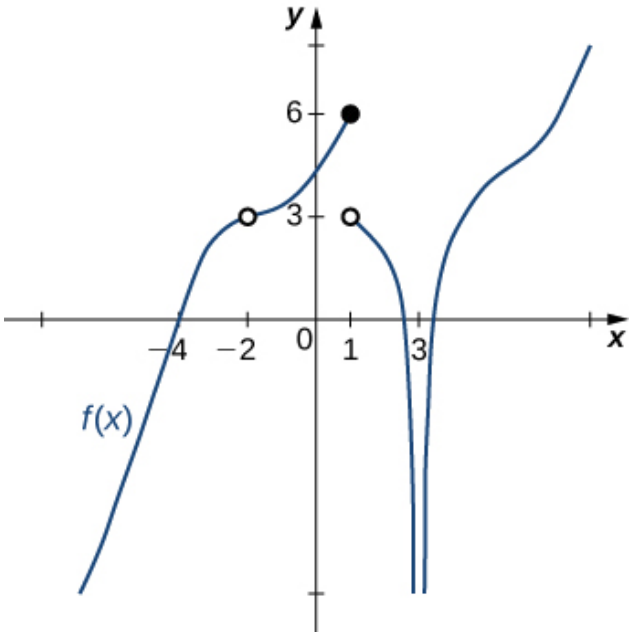
B. ∞

C. $f(7)$

D. The limit does not exist

E. None of the above

3. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = -\infty$.



A. 3

B. -2

C. $-\infty$

D. Multiple a make the statement true.

E. No a make the statement true.

4. Evaluate the limit below, if possible.

$$\lim_{x \to 7} \frac{\sqrt{9x - 27} - 6}{2x - 14}$$

A. ∞

B. 1.500

C. 0.042

D. 0.083

E. None of the above

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5. Evaluate the limit below, if possible.

$$\lim_{x\to 4} \frac{\sqrt{8x-16}-4}{6x-24}$$

A. 0.167

B. ∞

C. 0.021

D. 0.125

E. None of the above

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6. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x\to -9^-} \frac{-4}{(x-9)^6} + 5$$

A. ∞

B. $-\infty$

C. $f(-9)$

D. The limit does not exist

E. None of the above

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7. To estimate the one-sided limit of the function below as x approaches 10 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{10}{x}-1}{x-10}$$

A. $\{10.0000, 9.9000, 9.9900, 9.9990\}$

B. $\{10.1000, 10.0100, 10.0010, 10.0001\}$

C. $\{9.9000, 9.9900, 9.9990, 9.9999\}$

D. $\{10.0000, 10.1000, 10.0100, 10.0010\}$

E. $\{9.9000, 9.9900, 10.0100, 10.1000\}$

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8. To estimate the one-sided limit of the function below as x approaches 7 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{7}{x} - 1}{x - 7}$$

A. $\{6.9000, 6.9900, 7.0100, 7.1000\}$

B. $\{6.9000, 6.9900, 6.9990, 6.9999\}$

C. $\{7.0000, 6.9000, 6.9900, 6.9990\}$

D. $\{7.0000, 7.1000, 7.0100, 7.0010\}$

E. $\{7.1000, 7.0100, 7.0010, 7.0001\}$

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9. Based on the information below, which of the following statements is always true?

$f(x)$ *approaches* 5.448 *as* x *approaches* 7.

A. $f(x)$ is close to or exactly 7 when x is close to 5.448

B. $f(x) = 7$ when x is close to 5.448

C. $f(x) = 5.448$ when x is close to 7

D. $f(x)$ is close to or exactly 5.448 when x is close to 7

E. None of the above are always true.

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10. Based on the information below, which of the following statements is always true?

As x *approaches* 2, $f(x)$ *approaches* 5.809.

A. $f(2)$ is close to or exactly 5

B. $f(5) = 2$

C. $f(2) = 5$

D. $f(5)$ is close to or exactly 2

E. None of the above are always true.
